

Epps-Ford 09/438,365

=> d his

(FILE 'REGISTRY' ENTERED AT 14:14:26 ON 02 DEC 2004)
DEL HIS Y
ACT EPPS2/A

L1 STR
L2 (649)SEA FILE=REGISTRY SSS FUL L1
L3 STR
L4 8 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

FILE 'CAPLUS' ENTERED AT 14:15:14 ON 02 DEC 2004
L5 8 S L4

FILE 'USPATFULL' ENTERED AT 14:15:19 ON 02 DEC 2004
L6 16 S L4

FILE 'CAPLUS, USPATFULL' ENTERED AT 14:15:41 ON 02 DEC 2004
L7 22 DUP REM L5 L6 (2 DUPLICATES REMOVED)

=> fil reg
(FILE 'REGISTRY' ENTERED AT 14:17:09 ON 02 DEC 2004
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 1 DEC 2004 HIGHEST RN 791553-15-6
DICTIONARY FILE UPDATES: 1 DEC 2004 HIGHEST RN 791553-15-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

to the File Summary Sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

↳ d que stat 14 covers claim 16-14
14 STR

$\text{H}_2\text{N} - \text{C} - \text{C} - \text{C} - \text{N} - \text{G}_1 - \text{N} - \text{C} - \text{C} - \text{C} - \text{C} - \text{NH}_2$
 1 2 3 4 5 6 7 8 9 10 11

REP G1=(1-4) CH2

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMIT

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L2 (649) SEA FILE=REGISTRY SSS FUL L1
L3 STR

$$\begin{array}{ccccccccccccccccc}
 & & 5 & & 7 & & & & & & & & & & & & & \\
 \text{H}2\text{N} & - & \text{CH}2\text{G}2 & - & \text{CH}2\text{N} & - & \text{G}1 & - & \text{N} & - & \text{CH}2\text{G}2 & - & \text{CH}2\text{N}2 & - & \text{CH}2 & - & \text{NH}2 & & \text{CH} & - & \text{O} \\
 & & 1 & & 2 & & 3 & & 4 & & +1 & & 6 & & +1 & & 8 & & 9 & & 10 & & 11 & & @12 & & 13
 \end{array}$$

REP G1=(1-4) CH2

VAR G2=CH2/12

NODE ATTRIBUTES:

```
CHARGE IS E+1 AT 5
CHARGE IS E+1 AT 7
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
```

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
 L4 8 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

100.0% PROCESSED 649 ITERATIONS 8 ANSWERS
 SEARCH TIME: 00.00.01

=> => fil caplus uspatfull
 FILE 'CAPLUS' ENTERED AT 14:19:36 ON 02 DEC 2004
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 COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 14:19:36 ON 02 DEC 2004
 CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> d que nos 17
 L1 STR
 L2 (649)SEA FILE=REGISTRY SSS FUL L1
 L3 STR
 L4 8 SEA FILE=REGISTRY SUB=L2 SSS FUL L3
 L5 8 SEA FILE=CAPLUS ABB=ON PLU=ON L4
 L6 16 SEA FILE=USPATFULL ABB=ON PLU=ON L4
 L7 22 DUP REM L5 L6 (2 DUPLICATES REMOVED)

=> d ibib ab it 17 1-22

L7 ANSWER 1 OF 22 USPATFULL on STN
 ACCESSION NUMBER: 2004209031 USPATFULL
 TITLE: Process of making a compound by forming a polymer from
 a template drug
 INVENTOR(S): Trubetskoy, Vladimir, Middleton, WI, UNITED STATES
 Wolff, Jon A., Madison, WI, UNITED STATES
 Slattum, Paul M., Madison, WI, UNITED STATES
 Hanson, Lisa, Madison, WI, UNITED STATES
 Budker, Vladimir G., Middleton, WI, UNITED STATES
 Hagstrom, James E., Middleton, WI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004161463	A1	20040819
APPLICATION INFO.:	US 2004-755785	A1	20040112 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2001-993216, filed on 16 Nov 2001, GRANTED, Pat. No. US 6706922 Continuation-in-part of Ser. No. US 1997-778657, filed on 3 Jan 1997, GRANTED, Pat. No. US 6126964		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Mark K. Johnson, Mirus Corporation, 505 S. Rosa Rd., Madison, WI, 53719		
NUMBER OF CLAIMS:	11		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Page(s)		
LINE COUNT:	1858		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	A method of forming polymers in the presence of nucleic acid using template polymerization. Also, a method of having the polymerization occur in heterophase systems. These methods can be used for the delivery		

of nucleic acids, for condensing the nucleic acid, for forming nucleic acid binding polymers, for forming supramolecular complexes containing nucleic acid and polymer, and for forming an interpolyelectrolyte complex.

IT Histones

(H1, copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes

(anionic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes

(cationic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Drugs

IT Transformation, genetic

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

IT Peptides, biological studies

IT Polymers, biological studies

IT Protamines

IT Proteins, general, biological studies

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Peptides, biological studies

(nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt (caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P, 9-Bromo-1-nonanol 109970-44-7P 136058-30-5P 210292-09-4P 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P 210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P 210292-25-4P 210292-26-5P **210292-28-7P** 210292-30-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P, Polylysine 141647-62-3DP, DPDDB, copolymer with T antigen peptide 210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P 210292-11-8P 210292-12-9P 210292-14-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

L7 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2003:777246 CAPLUS

DOCUMENT NUMBER: 139:288636

TITLE: Single molecule detection systems and methods

INVENTOR(S) : Williams, John G. K.; Bashford, Gregory R.
 PATENT ASSIGNEE(S) : Li-Cor, Inc., USA
 SOURCE: U.S. Pat. Appl. Publ., 60 pp., Cont.-in-part of U.S.
 Ser. No. 876,375.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003186255	A1	20031002	US 2002-164685	20020605
US 2002039738	A1	20020404	US 2001-876375	20010606
WO 2002099406	A2	20021212	WO 2002-US18064	20020605
WO 2002099406	A3	20030206		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2001-876375	A2 20010606
			US 2000-209896P	P 20000607
			US 2001-286238P	P 20010424

AB A microfluidic system is provided that includes a substrate, a first microchannel disposed in the substrate for providing a reactant to a reaction zone, a second microchannel disposed in the substrate, and a third microchannel disposed in the substrate, the third microchannel providing fluid communication between the first and second microchannels. The system also typically includes first and second electrodes, positioned at opposite ends of the second microchannel, for providing an elec. field within the second microchannel. In operation, when the reactant is in the reaction zone, a reaction product is produced having a net elec. charge different from the elec. charge of the reactant.

IT Process control
 (feedback; single mol. detection systems and methods)

IT Fluorescence microscopy
 Lab-on-a-chip
 Mathematical methods
 Simulation and Modeling, physicochemical
 Single molecule detection
 (single mol. detection systems and methods)

IT Probes (nucleic acid)
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (single mol. detection systems and methods)

IT Glass, uses
 RL: DEV (Device component use); USES (Uses)
 (single mol. detection systems and methods)

IT Polysiloxanes, uses
 RL: DEV (Device component use); USES (Uses)
 (single mol. detection systems and methods)

IT 109-55-7 365-08-2, Thymidine triphosphate 628-21-7 24424-99-5
 216659-47-1 380304-19-8 380304-20-1 380304-21-2
 380304-22-3 380304-29-0 380368-23-0
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)

IT (single mol. detection systems and methods)
 9016-00-6, Di-Me siloxane, SRU 31900-57-9, Dimethylsilanediol
 homopolymer 60676-86-0, Fused silica
 RL: DEV (Device component use); USES (Uses)
 (single mol. detection systems and methods)

L7 ANSWER 3 OF 22 USPATFULL on STN
 ACCESSION NUMBER: 2003:37197 USPATFULL
 TITLE: Compositions and methods for drug delivery using pH
 sensitive molecules
 INVENTOR(S): Trubetskoy, Vladimir S., Madison, WI, UNITED STATES
 Hagstrom, James E., Middleton, WI, UNITED STATES
 Budker, Vladimir G., Middleton, WI, UNITED STATES
 Wolff, Jon A., Madison, WI, UNITED STATES
 Rozema, David B., Madison, WI, UNITED STATES
 Monahan, Sean D., Madison, WI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003026841	A1	20030206
APPLICATION INFO.:	US 2002-95680	A1	20020311 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2001-753990, filed on 2 Jan 2001, GRANTED, Pat. No. US 6383811		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-174132P	19991231 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Mark K. Johnson, P.O. Box 510644, New Berlin, WI, 53151	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
LINE COUNT:	3552	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An polyampholyte is utilized in a condensed polynucleotide complex for purposes of nucleic acid delivery to a cell. The complex can be formed with an appropriate amount of positive and/or negative charge such that the resulting complex can be delivered to the extravascular space and may be further delivered to a cell.

IT Histones
 (H1, copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes
 (anionic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes
 (cationic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Drugs

IT Transformation, genetic
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

IT Peptides, biological studies

IT Polymers, biological studies

IT Protamines

IT Proteins, general, biological studies
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Peptides, biological studies
(nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt (caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P, 9-Bromo-1-nonanol 109970-44-7P 136058-30-5P 210292-09-4P 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P 210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P 210292-25-4P 210292-26-5P 210292-28-7P 210292-30-1P
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P, Polylysine 141647-62-3DP, DPDDB, copolymer with T antigen peptide 210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P 210292-11-8P 210292-12-9P 210292-14-1P
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

L7 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
 ACCESSION NUMBER: 2002:41634 CAPLUS
 DOCUMENT NUMBER: 136:107515
 TITLE: Polymer formation in presence of nucleic acid using template polymerization
 INVENTOR(S): Wolff, Jon A.; Hagstrom, James E.; Budker, Vladimir G.; Trubetskoy, Vladimir S.; Slattum, Paul M.; Hanson, Lisa J.
 PATENT ASSIGNEE(S): Mirus Corp., USA
 SOURCE: U.S., 26 pp., Cont.-in-part of U.S. Ser. No. 778,657.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6339067	B1	20020115	US 1997-692	19971230
US 6126964	A	20001003	US 1997-778657	19970103
US 2001024829	A1	20010927	US 2001-753990	20010102
US 6383811	B2	20020507		
US 2002165184	A1	20021107	US 2001-993216	20011116
US 6706922	B2	20040316		
US 2002061287	A1	20020523	US 2001-4763	20011205
US 2002085989	A1	20020704	US 2001-5294	20011205
US 2004161463	A1	20040819	US 2004-755785	20040112
PRIORITY APPLN. INFO.:			US 1997-778657	A2 19970103
			US 1996-9593P	P 19960104

US 1997-692	A2 19971230
US 1999-464871	A3 19991216
US 1999-174132P	P 19991231
US 2001-993216	A3 20011116

AB Polymers are formed in the presence of nucleic acid using template polymerization

Also, polymerization occur in heterophase systems. These methods can be used for

the delivery of nucleic acids, for condensing the nucleic acid, for forming nucleic acid binding polymers, for forming supramol. complexes containing nucleic acid and polymer, and for forming an interpolyelectrolyte complex. For example, step polymerization with DNA as a template was performed using N,N'-bis(2-aminoethyl)-1,3-propanediamine and dithiobis(succinimidylpropionate). It was possible to obtain DNA-bound polyamide as a result of the polymerization and the resulting polymer can condense template DNA into compact structures.

IT Ligands

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cell-binding; polymer formation in presence of nucleic acid using template polymerization)

IT DNA

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(complexes, with polymers; polymer formation in presence of nucleic acid using template polymerization)

IT Genetic vectors

Polyelectrolytes

Transformation, genetic

(polymer formation in presence of nucleic acid using template polymerization)

IT DNA

Nucleic acids

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(polymer formation in presence of nucleic acid using template polymerization)

IT Polymers, biological studies

RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polymer formation in presence of nucleic acid using template polymerization)

IT Stabilizing agents

(steric; polymer formation in presence of nucleic acid using template polymerization)

IT Polymerization

(template; polymer formation in presence of nucleic acid using template polymerization)

IT 7647-14-5, Sodium chloride, uses 59012-54-3, Dimethyl 3,3'-Dithiobispropionimidate

RL: MOA (Modifier or additive use); USES (Uses)
(polymer formation in presence of nucleic acid using template polymerization)

IT 9042-14-2, Dextran sulfate

RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer formation in presence of nucleic acid using template polymerization)

IT 389132-33-6P

RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(polymer formation in presence of nucleic acid using template polymerization)

IT 25988-63-0, Poly-L-lysine hydrobromide 26588-20-5 71550-12-4, Polyallylamine hydrochloride

RL: POF (Polymer in formulation); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(polymer formation in presence of nucleic acid using template polymerization)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 115-70-8, AEPD 407-25-0, Trifluoroacetic anhydride 814-68-6, Acryloyl chloride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, tert-Butoxycarbonyl anhydride 55362-80-6, 9-Bromo-1-nonanol 174569-25-6 210292-17-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymer formation in presence of nucleic acid using template polymerization)

IT 51834-66-3P 109970-44-7P 136058-30-5P 210292-13-0P 210292-15-2P
210292-16-3P 210292-18-5P 210292-19-6P 210292-21-0P 210292-22-1P
210292-23-2P 210292-24-3P 210292-25-4P 210292-26-5P
210292-28-7P 210292-30-1P 389132-27-8P 389132-28-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(polymer formation in presence of nucleic acid using template polymerization)

IT 25232-42-2P, Poly(1-vinylimidazole) 57757-57-0DP, crosslinked with NLS peptide and DPDPB 141647-62-3DP, DPDPB, crosslinked with NLS peptide and DSP 210292-07-2P 248915-94-8P 248915-97-1P 248915-98-2P 389132-29-0P 389132-30-3P 389132-31-4P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(polymer formation in presence of nucleic acid using template polymerization)

IT 249299-75-0

RL: PRP (Properties)

(unclaimed sequence; polymer formation in presence of nucleic acid using template polymerization)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:301135 USPATFULL

TITLE: Flowcell system for nucleic acid sequencing

INVENTOR(S): Williams, John G.K., Lincoln, NE, UNITED STATES

Bashford, Gregory R., Lincoln, NE, UNITED STATES

PATENT ASSIGNEE(S): Li-cor, Inc., Lincoln, NE (U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2002168678 A1 20021114

APPLICATION INFO.: US 2002-146400 A1 20020514 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-876375, filed on 6 Jun 2001, PENDING

NUMBER	DATE
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PRIORITY INFORMATION: US 2000-209896P 20000607 (60)

DOCUMENT TYPE: US 2001-286238P 20010424 (60)
 FILE SEGMENT: Utility
 LEGAL REPRESENTATIVE: APPLICATION
 TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO
 CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834
 NUMBER OF CLAIMS: 54
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 18 Drawing Page(s)
 LINE COUNT: 2248
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides compounds, methods and systems for sequencing nucleic acid using single molecule detection. Using labeled NPs that exhibit charge-switching behavior, single-molecule DNA sequencing in a microchannel sorting system is realized. In operation, sequencing products are detected enabling real-time sequencing as successive detectable moieties flow through a detection channel. By electrically sorting charged molecules, the cleaved product molecules are detected in isolation without interference from unincorporated NPs and without illuminating the polymerase-DNA complex.

IT Electric field
 (charge-switch nucleotide cleavage products separation by; charge-switch nucleotides for use in nucleic acid sequencing)
 IT DNA sequence analysis
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT Nucleic acids
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT Primers (nucleic acid)
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT Cyanine dyes
 IT Fluorescent substances
 (conjugates with NTPs/dNTPs; charge-switch nucleotides for use in nucleic acid sequencing)
 IT Deoxyribonucleoside triphosphates
 IT Nucleoside triphosphates
 IT Nucleotides, preparation
 (conjugates with fluorophores; charge-switch nucleotides for use in nucleic acid sequencing)
 IT 9012-90-2, DNA polymerase 9013-05-2, Phosphatase 9014-24-8,
 DNA-dependent RNA polymerase 9025-82-5, Phosphodiesterase 9068-38-6,
 Reverse transcriptase 380304-23-4 380304-24-5 380304-25-6
 380304-26-7 380304-27-8 380304-28-9 380304-29-0 380304-30-3
 380304-31-4 380304-32-5 380304-33-6 380368-23-0
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 88-68-6DP, Anthranilamide, conjugates with NTPs/dNTPs 91-64-5DP,
 Coumarin, conjugates with NTPs/dNTPs 365-08-2DP, TTP, conjugates with fluorophores 1173-82-6DP, DUTP, conjugates with fluorophores 1927-31-7DP, DATP, conjugates with fluorophores 2056-98-6DP, DCTP,
 conjugates with fluorophores 2321-07-5DP, Fluorescein, conjugates with NTPs/dNTPs 2564-35-4DP, DGTP, conjugates with fluorophores 7440-27-9DP, Terbium, chelates, conjugates with NTPs/dNTPs
 13558-31-1DP, conjugates with NTPs/dNTPs 17681-50-4DP, Reactive Red 4,
 conjugates with NTPs/dNTPs 50402-56-7DP, EDANS, conjugates with NTPs/dNTPs 76823-03-5DP, 5-Carboxyfluorescein, conjugates with NTPs/dNTPs 138026-71-8DP, BODIPY, conjugates with NTPs/dNTPs
 204934-16-7DP, BODIPY TR, conjugates with NTPs/dNTPs
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 365-08-2, TTP 628-21-7, 1,4-Diiodobutane 926-63-6,
 N,N-Dimethylpropylamine 24424-99-5 380304-22-3
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 216659-47-1P 380304-19-8P 380304-20-1P 380304-21-2P

(charge-switch nucleotides for use in nucleic acid sequencing)

L7 ANSWER 6 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:295138 USPATFULL

TITLE: Process of making a compound by forming a polymer from a template drug

INVENTOR(S): Wolff, Jon A., Madison, WI, UNITED STATES
Hagstrom, James E., Madison, WI, UNITED STATES
Budker, Vladimir G., Madison, WI, UNITED STATES
Trubetskoy, Vladimir S., Madison, WI, UNITED STATES
Slattum, Paul M., Madison, WI, UNITED STATES
Hanson, Lisa J., Madison, WI, UNITED STATES

NUMBER KIND DATE

PATENT INFORMATION: US 2002165184 A1 20021107

US 6706922 B2 20040316

APPLICATION INFO.: US 2001-993216 A1 20011116 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1997-692, filed on 30 Dec 1997, GRANTED, Pat. No. US 6339067 Continuation-in-part of Ser. No. US 1997-778657, filed on 3 Jan 1997, GRANTED, Pat. No. US 6126964

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Mark K. Johnson, PO Box 510644, New Berlin, WI, 53151-0644

NUMBER OF CLAIMS: 27

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 6 Drawing Page(s)

LINE COUNT: 1909

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of forming polymers in the presence of nucleic acid using template polymerization. Also, a method of having the polymerization occur in heterophase systems. These methods can be used for the delivery of nucleic acids, for condensing the nucleic acid, for forming nucleic acid binding polymers, for forming supramolecular complexes containing nucleic acid and polymer, and for forming an interpolyelectrolyte complex.

IT Histones (H1, copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes (anionic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes (cationic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Drugs

IT Transformation, genetic (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

IT Peptides, biological studies

IT Polymers, biological studies

IT Protamines

IT Proteins, general, biological studies

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Peptides, biological studies
(nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt (caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P, 9-Bromo-1-nanol 109970-44-7P 136058-30-5P 210292-09-4P 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P 210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P 210292-25-4P 210292-26-5P 210292-28-7P 210292-30-1P
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P, Polylysine 141647-62-3DP, DPDPB, copolymer with T antigen peptide 210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P 210292-11-8P 210292-12-9P 210292-14-1P
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

L7 ANSWER 7 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:294277 USPATFULL

TITLE: Polyampholytes for delivering polyions to a cell

INVENTOR(S): Wolff, Jon A., Madison, WI, UNITED STATES
Hagstrom, James E., Middleton, WI, UNITED STATES
Budker, Vladimir G., Middleton, WI, UNITED STATES
Trubetskoy, Vladimir S., Madison, WI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002164315	A1	20021107
	US 6794189	B2	20040921
APPLICATION INFO.:	US 2002-95682	A1	20020510 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2001-753990, filed on 2 Jan 2001, GRANTED, Pat. No. US 6383811		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-174132P	19991231 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Mark K. Johnson, P.O. Box 510644, New Berlin, WI, 53151	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	5 Drawing Page(s)	
LINE COUNT:	863	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An polyampholyte is utilized in a condensed polynucleotide complex for purposes of nucleic acid delivery to a cell. The complex can be formed with an appropriate amount of positive and/or negative charge such that

the resulting complex can be delivered to the extravascular space and may be further delivered to a cell.

IT Histones (H1, copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes (anionic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes (cationic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Drugs

IT Transformation, genetic (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

IT Peptides, biological studies

IT Polymers, biological studies

IT Protamines

IT Proteins, general, biological studies (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Peptides, biological studies (nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt (caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc-anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P, 9-Bromo-1-nonanol 109970-44-7P 136058-30-5P 210292-09-4P 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P 210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P 210292-25-4P 210292-26-5P **210292-28-7P** 210292-30-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P, Polylysine 141647-62-3DP, DPDPP, copolymer with T antigen peptide 210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P 210292-11-8P 210292-12-9P 210292-14-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

L7 ANSWER 8 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:164376 USPATFULL

TITLE: Process of making a compound by forming a polymer from a template drug

INVENTOR(S): Wolff, Jon A., Madison, WI, UNITED STATES
Hagstrom, James E., Madison, WI, UNITED STATES

Budker, Vladimir G., Madison, WI, UNITED STATES
 Trubetskoy, Vladimir S., Madison, WI, UNITED STATES
 Slattum, Paul M., Madison, WI, UNITED STATES
 Hanson, Lisa J., Madison, WI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002085989	A1	20020704
APPLICATION INFO.:	US 2001-5294	A1	20011205 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 1999-464871, filed on 16 Dec 1999, PENDING Division of Ser. No. US 1997-778657, filed on 3 Jan 1997, PATENTED		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-9593P	19960104 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Mark K. Johnson, PO Box 510644, New Berlin, WI, 53151-0644	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	1346	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of forming polymers in the presence of nucleic acid using template polymerization. Also, a method of having the polymerization occur in heterophase systems. These methods can be used for the delivery of nucleic acids, for condensing the nucleic acid, for forming nucleic acid binding polymers, for forming supramolecular complexes containing nucleic acid and polymer, and for forming an interpolyelectrolyte complex.

IT Histones
 (H1, copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes
 (anionic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes
 (cationic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Drugs

IT Transformation, genetic
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

IT Peptides, biological studies

IT Polymers, biological studies

IT Protamines

IT Proteins, general, biological studies
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Peptides, biological studies
 (nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt (caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P, 9-Bromo-1-nanol 109970-44-7P 136058-30-5P 210292-09-4P 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P 210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P 210292-25-4P 210292-26-5P **210292-28-7P** 210292-30-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P, Polylysine 141647-62-3DP, DPDPB, copolymer with T antigen peptide 210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P 210292-11-8P 210292-12-9P 210292-14-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

L7 ANSWER 9 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:119307 USPATFULL

TITLE: Process of making a compound by forming a polymer from a template drug

INVENTOR(S): Wolff, Jon A., Madison, WI, UNITED STATES
Hagstrom, James E., Madison, WI, UNITED STATES
Budker, Vladimir G., Madison, WI, UNITED STATES
Trubetskoy, Vladimir S., Madison, WI, UNITED STATES
Slattum, Paul M., Madison, WI, UNITED STATES
Hanson, Lisa J., Madison, WI, UNITED STATES

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2002061287 A1 20020523

APPLICATION INFO.: US 2001-4763 A1 20011205 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-464871, filed on 16 Dec 1999, PENDING Division of Ser. No. US 1997-778657, filed on 3 Jan 1997, PATENTED

NUMBER	DATE
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PRIORITY INFORMATION: US 1996-9593P 19960104 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Mark K. Johnson, PO Box 510644, New Berlin, WI, 53151-0644

NUMBER OF CLAIMS: 12

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 3 Drawing Page(s)

LINE COUNT: 1358

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of forming polymers in the presence of nucleic acid using template polymerization. Also, a method of having the polymerization occur in heterophase systems. These methods can be used for the delivery of nucleic acids, for condensing the nucleic acid, for forming nucleic acid binding polymers, for forming supramolecular complexes containing

nucleic acid and polymer, and for forming an interpolyelectrolyte complex.

IT Histones
(H1, copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes
(anionic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes
(cationic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Drugs

IT Transformation, genetic
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

IT Peptides, biological studies

IT Polymers, biological studies

IT Protamines

IT Proteins, general, biological studies
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Peptides, biological studies
(nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt
(caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P,
9-Bromo-1-nanol 109970-44-7P 136058-30-5P 210292-09-4P
210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P
210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P
210292-25-4P 210292-26-5P 210292-28-7P 210292-30-1P
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P,
Polylysine 141647-62-3DP, DPDPB, copolymer with T antigen peptide
210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P
210292-11-8P 210292-12-9P 210292-14-1P
(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

L7 ANSWER 10 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:78417 USPATFULL

TITLE: Charge-switch nucleotides

INVENTOR(S): Williams, John G.K., Lincoln, NE, UNITED STATES

Bashford, Gregory R., Lincoln, NE, UNITED STATES

Chen, Jiyan, Lincoln, NE, UNITED STATES

Draney, Dan, Lincoln, NE, UNITED STATES
 Narayanan, Nara, Greensboro, NC, UNITED STATES
 Reynolds, Bambi L., Lincoln, NE, UNITED STATES
 Sheaff, Pamela, Omaha, NE, UNITED STATES

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2002042071 A1 20020411
 APPLICATION INFO.: US 2001-876374 A1 20010606 (9)

NUMBER	DATE
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PRIORITY INFORMATION: US 2000-209896P 20000607 (60)
 US 2001-286238P 20010424 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834

NUMBER OF CLAIMS: 48

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 18 Drawing Page(s)

LINE COUNT: 2250

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides compounds, methods and systems for sequencing nucleic acid using single molecule detection. Using labeled NPs that exhibit charge-switching behavior, single-molecule DNA sequencing in a microchannel sorting system is realized. In operation, sequencing products are detected enabling real-time sequencing as successive detectable moieties flow through a detection channel. By electrically sorting charged molecules, the cleaved product molecules are detected in isolation without interference from unincorporated NPs and without illuminating the polymerase-DNA complex.

IT Electric field

(charge-switch nucleotide cleavage products separation by; charge-switch nucleotides for use in nucleic acid sequencing)

IT DNA sequence analysis

(charge-switch nucleotides for use in nucleic acid sequencing)

IT Nucleic acids

(charge-switch nucleotides for use in nucleic acid sequencing)

IT Primers (nucleic acid)

(charge-switch nucleotides for use in nucleic acid sequencing)

IT Cyanine dyes

IT Fluorescent substances

(conjugates with NTPs/dNTPs; charge-switch nucleotides for use in nucleic acid sequencing)

IT Deoxyribonucleoside triphosphates

IT Nucleoside triphosphates

IT Nucleotides, preparation

(conjugates with fluorophores; charge-switch nucleotides for use in nucleic acid sequencing)

IT 9012-90-2, DNA polymerase 9013-05-2, Phosphatase 9014-24-8,
 DNA-dependent RNA polymerase 9025-82-5, Phosphodiesterase 9068-38-6,
 Reverse transcriptase 380304-23-4 380304-24-5 380304-25-6
 380304-26-7 380304-27-8 380304-28-9 380304-29-0 380304-30-3
 380304-31-4 380304-32-5 380304-33-6 380368-23-0

(charge-switch nucleotides for use in nucleic acid sequencing)

IT 88-68-6DP, Anthranilamide, conjugates with NTPs/dNTPs 91-64-5DP,
 Coumarin, conjugates with NTPs/dNTPs 365-08-2DP, TTP, conjugates with fluorophores 1173-82-6DP, DUTP, conjugates with fluorophores 1927-31-7DP, DATP, conjugates with fluorophores 2056-98-6DP, DCTP,

conjugates with fluorophores 2321-07-5DP, Fluorescein, conjugates with NTPs/dNTPs 2564-35-4DP, DGTP, conjugates with fluorophores 7440-27-9DP, Terbium, chelates, conjugates with NTPs/dNTPs 13558-31-1DP, conjugates with NTPs/dNTPs 17681-50-4DP, Reactive Red 4, conjugates with NTPs/dNTPs 50402-56-7DP, EDANS, conjugates with NTPs/dNTPs 76823-03-5DP, 5-Carboxyfluorescein, conjugates with NTPs/dNTPs 138026-71-8DP, BODIPY, conjugates with NTPs/dNTPs 204934-16-7DP, BODIPY TR, conjugates with NTPs/dNTPs (charge-switch nucleotides for use in nucleic acid sequencing)

IT 365-08-2, TTP 628-21-7, 1,4-Diodobutane 926-63-6, N,N-Dimethylpropylamine 24424-99-5 380304-22-3 (charge-switch nucleotides for use in nucleic acid sequencing)

IT 216659-47-1P 380304-19-8P 380304-20-1P 380304-21-2P (charge-switch nucleotides for use in nucleic acid sequencing)

L7 ANSWER 11 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:72601 USPATFULL
 TITLE: Nucleic acid sequencing using charge-switch nucleotides
 INVENTOR(S): Williams, John G.K., Lincoln, NE, UNITED STATES
 Bashford, Gregory R., Lincoln, NE, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002039738	A1	20020404
APPLICATION INFO.:	US 2001-876375	A1	20010606 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-209896P	20000607 (60)
	US 2001-286238P	20010424 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	TOWNSEND AND TOWNSEND AND CREW, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834	
NUMBER OF CLAIMS:	54	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	18 Drawing Page(s)	
LINE COUNT:	2167	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides compounds, methods and systems for sequencing nucleic acid using single molecule detection. Using labeled NPs that exhibit charge-switching behavior, single-molecule DNA sequencing in a microchannel sorting system is realized. In operation, sequencing products are detected enabling real-time sequencing as successive detectable moieties flow through a detection channel. By electrically sorting charged molecules, the cleaved product molecules are detected in isolation without interference from unincorporated NPs and without illuminating the polymerase-DNA complex.

IT Electric field (charge-switch nucleotide cleavage products separation by; charge-switch nucleotides for use in nucleic acid sequencing)

IT DNA sequence analysis (charge-switch nucleotides for use in nucleic acid sequencing)

IT Nucleic acids (charge-switch nucleotides for use in nucleic acid sequencing)

IT Primers (nucleic acid) (charge-switch nucleotides for use in nucleic acid sequencing)

IT Cyanine dyes

IT Fluorescent substances (conjugates with NTPs/dNTPs; charge-switch nucleotides for use in

nucleic acid sequencing)
 IT Deoxyribonucleoside triphosphates
 IT Nucleoside triphosphates
 IT Nucleotides, preparation
 (conjugates with fluorophores; charge-switch nucleotides for use in
 nucleic acid sequencing)
 IT 9012-90-2, DNA polymerase 9013-05-2, Phosphatase 9014-24-8,
 DNA-dependent RNA polymerase 9025-82-5, Phosphodiesterase 9068-38-6,
 Reverse transcriptase 380304-23-4 380304-24-5 380304-25-6
 380304-26-7 380304-27-8 380304-28-9 380304-29-0 380304-30-3
 380304-31-4 380304-32-5 380304-33-6 380368-23-0
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 88-68-6DP, Anthranilamide, conjugates with NTPs/dNTPs 91-64-5DP,
 Coumarin, conjugates with NTPs/dNTPs 365-08-2DP, TTP, conjugates with
 fluorophores 1173-82-6DP, DUTP, conjugates with fluorophores
 1927-31-7DP, DATP, conjugates with fluorophores 2056-98-6DP, DCTP,
 conjugates with fluorophores 2321-07-5DP, Fluorescein, conjugates with
 NTPs/dNTPs 2564-35-4DP, DGTP, conjugates with fluorophores
 7440-27-9DP, Terbium, chelates, conjugates with NTPs/dNTPs
 13558-31-1DP, conjugates with NTPs/dNTPs 17681-50-4DP, Reactive Red 4,
 conjugates with NTPs/dNTPs 50402-56-7DP, EDANS, conjugates with
 NTPs/dNTPs 76823-03-5DP, 5-Carboxyfluorescein, conjugates with
 NTPs/dNTPs 138026-71-8DP, BODIPY, conjugates with NTPs/dNTPs
 204934-16-7DP, BODIPY TR, conjugates with NTPs/dNTPs
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 365-08-2, TTP 628-21-7, 1,4-Diiodobutane 926-63-6,
 N,N-Dimethylpropylamine 24424-99-5 380304-22-3
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 216659-47-1P 380304-19-8P 380304-20-1P 380304-21-2P
 (charge-switch nucleotides for use in nucleic acid sequencing)

L7 ANSWER 12 OF 22 USPATFULL on STN
 ACCESSION NUMBER: 2002:34557 USPATFULL
 TITLE: Cyanine dyes
 INVENTOR(S): Cummins, William, Tring, UNITED KINGDOM
 West, Richard, Uxbridge, UNITED KINGDOM
 Smith, John Anthony, Rhiwbina, UNITED KINGDOM
 PATENT ASSIGNEE(S): Nycomed Amersham plc, Buckinghamshire, UNITED KINGDOM
 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6348599	B1	20020219
	WO 9905221		19990204
APPLICATION INFO.:	US 2000-463534	20000424	(9)
	WO 1998-GB2232	19980727	
		20000424	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1997-305550	19970728
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Higel, Floyd D.	
LEGAL REPRESENTATIVE:	Ronning, Jr., Royal N.	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	618	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A cyanine dye having the structure ##STR1##

has an overall positive charge greater than +1, by virtue of the presence of one to five positively charged N or P or S atoms, and also has a reactive or functional group by which it may be linked to a biomolecule or a solid surface.

IT Functional groups
(aminoxy; fluorescent labeling and electrophoresis of carbohydrates)

IT Fluorescent substances
(cyanine dyes; fluorescent labeling and electrophoresis of carbohydrates)

IT Amphoteric materials

IT Electrophoresis

IT Fluorescent indicators

IT Gel electrophoresis

IT Isoelectric focusing

IT Two-dimensional gel electrophoresis
(fluorescent labeling and electrophoresis of carbohydrates)

IT Oligosaccharides, analysis
(fluorescent labeling and electrophoresis of carbohydrates)

IT Carbohydrates, analysis
(fluorescent labeling and electrophoresis of carbohydrates)

IT Primary amines

IT Pyridinium compounds

IT Quaternary ammonium compounds, analysis

IT Secondary amines

IT Tertiary amines
(fluorescent labeling and electrophoresis of carbohydrates)

IT Cyanine dyes
(fluorescent; fluorescent labeling and electrophoresis of carbohydrates)

IT Onium compounds
(guanidinium; fluorescent labeling and electrophoresis of carbohydrates)

IT Functional groups
(imidazolyl; fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-77-3 205814-78-4 205814-79-5 205814-80-8 205814-87-5
205814-88-6 205814-89-7 205814-90-0 205814-91-1 205815-03-8
205815-07-2
(fluorescent labeling and electrophoresis of carbohydrates)

IT 117-42-0, 8-Aminonaphthalene-1,3,6-trisulfonic acid
(fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-82-0P 205814-84-2P 205814-94-4P 205814-98-8P 205815-00-5P
205815-02-7P 205815-06-1P
(fluorescent labeling and electrophoresis of carbohydrates)

IT 56-87-1, L-Lysine, analysis 28101-37-3
(fluorescent labeling and electrophoresis of carbohydrates)

IT 205815-15-2P 205815-18-5P
(fluorescent labeling and electrophoresis of carbohydrates)

IT 302-01-2, Hydrazine, analysis 39455-90-8, Pyrazolone
(fluorescent labeling and electrophoresis of carbohydrates)

IT 85-44-9, 1,3-Isobenzofurandione 100-22-1 109-55-7 110-95-2
622-15-1, N,N'-Diphenylformamidine 870-46-2, tert-Butyl carbazate
5460-29-7 14134-81-7 20205-29-2 57212-90-5 94790-37-1, Hbtu
146368-08-3 171429-43-9 198422-83-2 205814-83-1 205814-92-2
205814-97-7 205815-01-6
(fluorescent labeling and electrophoresis of carbohydrates)

IT 13474-65-2P 88015-58-1P 205814-76-2P 205814-81-9P 205814-85-3P
205814-96-6P 205815-04-9P 205815-05-0P 205815-09-4P
205815-10-7P 205815-13-0P 205815-14-1P 205815-17-4P

(fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-86-4P 205815-11-8P
(fluorescent labeling and electrophoresis of carbohydrates)

L7 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2001:904559 CAPLUS
 DOCUMENT NUMBER: 136:32660
 TITLE: Charge-switch nucleotides for use in nucleic acid sequencing
 INVENTOR(S): Williams, John G. K.; Bashford, Gregory R.; Chen, Jiyan; Draney, Dan; Narayanan, Nara; Reynolds, Bambi L.; Sheaff, Pamela
 PATENT ASSIGNEE(S): Li-Cor, Inc., USA
 SOURCE: PCT Int. Appl., 81 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094609	A1	20011213	WO 2001-US18699	20010607
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002039738	A1	20020404	US 2001-876375	20010606
US 2002042071	A1	20020411	US 2001-876374	20010606
CA 2412567	AA	20011213	CA 2001-2412567	20010607
EP 1287154	A1	20030305	EP 2001-946213	20010607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004516810	T2	20040610	JP 2002-502149	20010607
US 2002168678	A1	20021114	US 2002-146400	20020514
PRIORITY APPLN. INFO.:			US 2000-209896P	P 20000607
			US 2001-286238P	P 20010424
			US 2001-876374	A 20010606
			US 2001-876375	A 20010606
			WO 2001-US18699	W 20010607

AB The present invention provides compds., methods and systems for sequencing nucleic acid using single mol. detection. Using labeled nucleoside triphosphates that exhibit charge-switching behavior, single-mol. DNA sequencing in a microchannel sorting system is realized. In operation, sequencing products are detected enabling real-time sequencing as successive detectable moieties flow through a detection channel. By elec. sorting charged mols., the cleaved product mols. are detected in isolation without interference from unincorporated nucleoside triphosphate derivs. and without illuminating the polymerase-DNA complex. Thus, a method for determining the charge on a charge-switch nucleotide of the invention is described. A charge-switch nucleotide comprising TTP conjugated via a doubly pos. charged linker to TAMRA was synthesized and used in a microchannel device in DNA sequencing.

IT Electric field
(charge-switch nucleotide cleavage products separation by; charge-switch

nucleotides for use in nucleic acid sequencing)
 IT DNA sequence analysis
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT Nucleic acids
 RL: ANT (Analyte); ANST (Analytical study)
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT Primers (nucleic acid)
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT Cyanine dyes
 Fluorescent substances
 (conjugates with NTPs/dNTPs; charge-switch nucleotides for use in
 nucleic acid sequencing)
 IT Deoxyribonucleoside triphosphates
 Nucleoside triphosphates
 Nucleotides, preparation
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (conjugates with fluorophores; charge-switch nucleotides for use in
 nucleic acid sequencing)
 IT 9012-90-2, DNA polymerase 9013-05-2, Phosphatase 9014-24-8,
 DNA-dependent RNA polymerase 9025-82-5, Phosphodiesterase 9068-38-6,
 Reverse transcriptase 380304-23-4 380304-24-5 380304-25-6
 380304-26-7 380304-27-8 380304-28-9 380304-29-0 380304-30-3
 380304-31-4 380304-32-5 380304-33-6 380368-23-0
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 88-68-6DP, Anthranilamide, conjugates with NTPs/dNTPs 91-64-5DP,
 Coumarin, conjugates with NTPs/dNTPs 365-08-2DP, TTP, conjugates with
 fluorophores 1173-82-6DP, DUTP, conjugates with fluorophores
 1927-31-7DP, DATP, conjugates with fluorophores 2056-98-6DP, DCTP,
 conjugates with fluorophores 2321-07-5DP, Fluorescein, conjugates with
 NTPs/dNTPs 2564-35-4DP, DGTP, conjugates with fluorophores
 7440-27-9DP, Terbium, chelates, conjugates with NTPs/dNTPs 13558-31-1DP,
 conjugates with NTPs/dNTPs 17681-50-4DP, Reactive Red 4, conjugates with
 NTPs/dNTPs 50402-56-7DP, EDANS, conjugates with NTPs/dNTPs
 76823-03-5DP, 5-Carboxyfluorescein, conjugates with NTPs/dNTPs
 138026-71-8DP, BODIPY, conjugates with NTPs/dNTPs 204934-16-7DP, BODIPY
 TR, conjugates with NTPs/dNTPs
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 365-08-2, TTP 628-21-7, 1,4-Diiodobutane 926-63-6,
 N,N-Dimethylpropylamine 24424-99-5 380304-22-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (charge-switch nucleotides for use in nucleic acid sequencing)
 IT 216659-47-1P 380304-19-8P 380304-20-1P 380304-21-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (charge-switch nucleotides for use in nucleic acid sequencing)
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT.

L7 ANSWER 14 OF 22 USPATFULL on STN
 ACCESSION NUMBER: 2001:163332 USPATFULL
 TITLE: Analysis of carbohydrates
 INVENTOR(S): Jackson, Peter, Fulbourne, United Kingdom
 Cummins, William Jonathan, Herts, United Kingdom
 West, Richard, Uxbridge, United Kingdom
 Smith, John Anthony, Cardiff, United Kingdom

PATENT ASSIGNEE(S) : Briggs, Mark Samuel Jonathan, Cardiff, United Kingdom
 Amersham International PLC, Little Chalfont Bucks,
 United States (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6294667	B1	20010925
	WO 9815829		19980416
APPLICATION INFO.:	US 1999-284046		19990610 (9)
	WO 1997-GB2727		19971003
			19990610 PCT 371 date
			19990610 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1996-20881	19961007
	EP 1997-305550	19970728
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Allen, Marianne P.	
ASSISTANT EXAMINER:	Moran, Marjorie A	
LEGAL REPRESENTATIVE:	Marshall, O'Toole Gerstein, Murray & Borun	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 4 Drawing Page(s)	
LINE COUNT:	1692	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention discloses a method of separating or distinguishing carbohydrate substances. More particularly the method includes using fluorescent labeling reagents which have a positive charge when bound to a carbohydrate, involves separating the labeled carbohydrate substances, such as by performing electrophoresis to cause differential migration of different labeled carbohydrate substances, or by isoelectric focusing in a pH gradient. The fluorescent labeling reagents are preferably cyanine dyes.

IT Functional groups
 (aminoxy; fluorescent labeling and electrophoresis of carbohydrates)

IT Fluorescent substances
 (cyanine dyes; fluorescent labeling and electrophoresis of carbohydrates)

IT Amphoteric materials

IT Electrophoresis

IT Fluorescent indicators

IT Gel electrophoresis

IT Isoelectric focusing

IT Two-dimensional gel electrophoresis
 (fluorescent labeling and electrophoresis of carbohydrates)

IT Oligosaccharides, analysis
 (fluorescent labeling and electrophoresis of carbohydrates)

IT Carbohydrates, analysis
 (fluorescent labeling and electrophoresis of carbohydrates)

IT Primary amines

IT Pyridinium compounds

IT Quaternary ammonium compounds, analysis

IT Secondary amines

IT Tertiary amines
 (fluorescent labeling and electrophoresis of carbohydrates)

IT Cyanine dyes
 (fluorescent; fluorescent labeling and electrophoresis of carbohydrates)

IT Onium compounds
 (guanidinium; fluorescent labeling and electrophoresis of carbohydrates)

IT Functional groups
 (imidazolyl; fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-77-3 205814-78-4 205814-79-5 205814-80-8 205814-87-5
 205814-88-6 205814-89-7 205814-90-0 205814-91-1 205815-03-8
 205815-07-2
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 117-42-0, 8-Aminonaphthalene-1,3,6-trisulfonic acid
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-82-0P 205814-84-2P 205814-94-4P 205814-98-8P 205815-00-5P
 205815-02-7P 205815-06-1P
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 56-87-1, L-Lysine, analysis 28101-37-3
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 205815-15-2P 205815-18-5P
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 302-01-2, Hydrazine, analysis 39455-90-8, Pyrazolone
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 85-44-9, 1,3-Isobenzofurandione 100-22-1 109-55-7 110-95-2
 622-15-1, N,N'-Diphenylformamidine 870-46-2, tert-Butyl carbazate
 5460-29-7 14134-81-7 20205-29-2 57212-90-5 94790-37-1, Hbtu
 146368-08-3 171429-43-9 198422-83-2 205814-83-1 205814-92-2
 205814-97-7 205815-01-6
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 13474-65-2P 88015-58-1P 205814-76-2P 205814-81-9P 205814-85-3P
205814-96-6P 205815-04-9P 205815-05-0P 205815-09-4P
 205815-10-7P 205815-13-0P 205815-14-1P 205815-17-4P
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-86-4P 205815-11-8P
 (fluorescent labeling and electrophoresis of carbohydrates)

L7 ANSWER 15 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2000:131438 USPATFULL

TITLE: Process of making a compound by forming a polymer from a template drug

INVENTOR(S): Wolff, Jon A., Madison, WI, United States
 Hagstrom, James E., Madison, WI, United States
 Budker, Vladimir G., Madison, WI, United States
 Trubetskoy, Vladimir S., Madison, WI, United States
 Slattum, Paul M., Madison, WI, United States
 Hanson, Lisa J., Madison, WI, United States
 Mirus Corporation, Madison, WI, United States (U.S. corporation)

PATENT ASSIGNEE(S):

NUMBER KIND DATE

 PATENT INFORMATION: US 6126964 20001003
 APPLICATION INFO.: US 1997-778657 19970103 (8)

NUMBER DATE

 PRIORITY INFORMATION: US 1996-9593P 19960104 (60)
 DOCUMENT TYPE: Utility
 FILE SEGMENT: Granted
 PRIMARY EXAMINER: Ketter, James
 LEGAL REPRESENTATIVE: Johnson, Mark K.
 NUMBER OF CLAIMS: 11
 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)

LINE COUNT: 1410

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of forming polymers in the presence of nucleic acid using template polymerization. Also, a method of having the polymerization occur in heterophase systems. These methods can be used for the delivery of nucleic acids, for condensing the nucleic acid, for forming nucleic acid binding polymers, for forming supramolecular complexes containing nucleic acid and polymer, and for forming an interpolyelectrolyte complex.

IT Histone H1

(copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Anionic polyelectrolytes

IT Cationic polyelectrolytes

IT Drugs

IT Transformation (genetic)

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

IT Peptides, biological studies

IT Polymers, biological studies

IT Protamines

IT Proteins (general), biological studies

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Peptides, biological studies

(nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt (caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P, 9-Bromo-1-nonanol 109970-44-7P 136058-30-5P 210292-09-4P 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P 210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P 210292-25-4P 210292-26-5P 210292-28-7P 210292-30-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P, Polylysine 141647-62-3DP, DPPB, copolymer with T antigen peptide 210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P 210292-11-8P 210292-12-9P 210292-14-1P (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

DOCUMENT NUMBER: 131:327545
 TITLE: Polymer formation in the presence of nucleic acid using template polymerization
 INVENTOR(S): Wolff, Jon A.; Hagstrom, James E.; Budker, Vladimir G.
 PATENT ASSIGNEE(S): Mirus Corporation, USA
 SOURCE: PCT Int. Appl., 73 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9955825	A1	19991104	WO 1999-US8965	19990423
W: JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1073707	A1	20010207	EP 1999-920014	19990423
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE				
PRIORITY APPLN. INFO.:			US 1998-70299	A 19980430
			WO 1999-US8965	W 19990423

AB Polymers are formed in the presence of nucleic acid using template polymerization

Also, polymerization occurs in heterophase systems. These methods can be used for the delivery of nucleic acids, for condensing the nucleic acid, for forming nucleic acid binding polymers, for forming supramol. complexes containing nucleic acid and polymer, and for forming an interpolyelectrolyte complex. Step polymerization with DNA as a template was performed using N,N'-bis(2-aminoethyl)-1,3-propanediamine and dithiobis(succinimidylpropionate). It was possible to obtain DNA-bound polyamide as a result of the polymerization and the resulting polymer can condense template DNA into compact structures.

IT DNA
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
 (complexes; polymer formation in the presence of nucleic acid using template polymerization)

IT Human adenovirus
 Human herpesvirus
 Parvovirus
 Polyelectrolytes
 Retroviridae
 Sindbis virus
 Transformation, genetic
 (polymer formation in the presence of nucleic acid using template polymerization)

IT DNA
 Polynucleotides
 RNA
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
 (polymer formation in the presence of nucleic acid using template polymerization)

IT Polymerization
 (template; polymer formation in the presence of nucleic acid using template polymerization)

IT 105-83-9 110-95-2, N,N,N',N'-Tetramethyl-1,3-propanediamine 814-68-6,

2-Propenoyl chloride 3030-47-5 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-propanediamine 5003-71-4, 3-Bromopropylamine hydrobromide 55362-80-6, 9-Bromo-1-nanol 59012-54-3, Dimethyl 3,3'-dithiobispropionimidate 174569-25-6 210292-17-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (polymer formation in the presence of nucleic acid using template polymerization)

IT 51834-66-3P 109970-44-7P 136058-30-5P 205814-86-4P 210292-09-4P
 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P
 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P 210292-25-4P
 210292-26-5P 210292-28-7P 210292-30-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (polymer formation in the presence of nucleic acid using template polymerization)

IT 25104-18-1P, Poly(L-lysine) 38000-06-5P, Poly(L-lysine) 71550-12-4P,
 Polyallylamine hydrochloride 248915-96-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (polymer formation in the presence of nucleic acid using template polymerization)

IT 25232-42-2P, Poly(1-vinylimidazole) 57757-57-0DP, crosslinked with NLS peptide and DPDPB 141647-62-3DP, DPDPB, crosslinked with NLS peptide and DSP 210292-07-2P 248915-94-8P 248915-95-9P 248915-97-1P 248915-98-2P
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (polymer formation in the presence of nucleic acid using template polymerization)

IT 249299-75-0
 RL: PRP (Properties)
 (unclaimed sequence; polymer formation in the presence of nucleic acid using template polymerization)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:71546 CAPLUS
 DOCUMENT NUMBER: 130:237731
 TITLE: Sinulamide: an H,K-ATPase inhibitor from a soft coral *Sinularia* sp.
 AUTHOR(S): Sata, Noriko U.; Sugano, Michihiro; Matsunaga, Shigeki; Fusetani, Nobuhiro
 CORPORATE SOURCE: Laboratory of Aquatic Natural Products Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Tokyo, 113-8657, Japan
 SOURCE: Tetrahedron Letters (1999), 40(4), 719-722
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Sinulamide (I·3Cl-), a new tetraprenylated spermine derivative, has been isolated from a soft coral *Sinularia* sp. as an H,K-ATPase inhibitor. The structure was assigned on the basis of spectroscopic data and confirmed by a total synthesis.

IT Antitumor agents
 Configuration
 Cytotoxicity
 Molecular structure, natural product

New natural products

Sinularia

(isolation, structure and synthesis of sinulamide: an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

IT Antitumor agents

(leukemia; isolation, structure and synthesis of sinulamide: an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

IT Alkaloids, preparation

RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(terpenoid; isolation, structure and synthesis of sinulamide: an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

IT 9000-83-3, ATPase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(H,K-; isolation, structure and synthesis of sinulamide: an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

IT 221278-53-1P, Sinulamide hydrochloride

RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(isolation, structure and synthesis of sinulamide, an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

IT 107-13-1, 2-Propenenitrile, reactions 110-60-1, Putrescin 24034-73-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(isolation, structure and synthesis of sinulamide: an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

IT 14209-32-6P 32480-11-8P, Geranylgeranial 35750-48-2P, Geranylgeranoic acid 57784-25-5P, Geranylnerol 57784-38-0P, Geranylneral

89471-07-8P, Geranylneric acid 103493-12-5P 177213-61-5P

194808-59-8P 221226-22-8P 221226-23-9P, N2,N2,N3,N3-

Tetramethylspermamine dichloride 221226-24-0P 221226-25-1P,

p-Nitrophenyl geranylneroate 221226-26-2P 221226-27-3P 221234-74-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(isolation, structure and synthesis of sinulamide: an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

IT 221278-52-0P, (all-E)-Sinulamide hydrochloride

RL: SPN (Synthetic preparation); PREP (Preparation)

(isolation, structure and synthesis of sinulamide: an H,K-ATPase inhibitor from a soft coral Sinularia sp.)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:485169 CAPLUS

DOCUMENT NUMBER: 129:118754

TITLE: Method for making a compound for delivery to cells by forming a polymer in the presence of a template drug, especially nucleic acid

INVENTOR(S): Wolff, Jon A.; Hagstrom, James E.; Budker, Vladimir G.; Trubetskoy, Vladimer S.; Slattum, Paul M.; Hanson, Lisa J.

PATENT ASSIGNEE(S): Mirus Corp., USA

SOURCE: PCT Int. Appl., 79 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 6

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9829541	A1	19980709	WO 1997-US24089	19971230
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6126964	A	20001003	US 1997-778657	19970103
EP 958356	A1	19991124	EP 1997-954803	19971230
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE				
US 2002061287	A1	20020523	US 2001-4763	20011205
US 2002085989	A1	20020704	US 2001-5294	20011205
US 2004161463	A1	20040819	US 2004-755785	20040112
PRIORITY APPLN. INFO.:			US 1997-778657	A 19970103
			US 1996-9593P	P 19960104
			WO 1997-US24089	W 19971230
			US 1999-464871	A3 19991216
			US 2001-993216	A3 20011116

OTHER SOURCE(S): MARPAT 129:118754

AB A method of making a compound for delivery to a cell comprising forming a polymer in the presence of a biol. active drug is disclosed.. A method of forming polymers in the presence of nucleic acid using template polymerization and of having the polymerization occur in heterophase systems is further disclosed. These methods can be used for the delivery of nucleic acids, for condensing the nucleic acid, for forming nucleic acid-binding polymers, for forming supramol. complexes containing nucleic acid and polymer, and for forming an interpolyelectrolyte complex. The nuclear localizing peptide of SV40 T antigen was copolymerd. with dithiobis[succinimidylpropionate] in the presence of plasmid DNA and this process enabled the formation of complexes that expressed luciferase after transfection into 3T3 cells in culture.

IT Histones

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(H1, copolymer with dimethyldithiobispropionimidate; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes

(anionic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Polyelectrolytes

(cationic; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Drugs

Transformation, genetic

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Histones

Peptides, biological studies

Polymers, biological studies

Protamines

Proteins, general, biological studies

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT Nucleic acids

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(method for making compound for delivery to cells by forming polymer in

presence of template drug, especially nucleic acid)

IT Peptides, biological studies
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (nuclear localization, copolymer with dithiobis[succinimidylpropionate]; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 9042-14-2, Dextran sulfate 54193-36-1, Polymethacrylic acid sodium salt
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (caged DNA particles coated with; method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 75-50-3, Trimethylamine, reactions 105-83-9, 3,3'-Diamino-N-methyldipropylamine 110-95-2 407-25-0, Trifluoroacetic anhydride 3030-47-5 5003-71-4, 3-Bromopropylamine hydrobromide 24424-99-5, Boc anhydride 58632-95-4, BOC-ON 174569-25-6 210292-17-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 814-68-6P, Acryloyl chloride 51834-66-3P 55362-80-6P,
 9-Bromo-1-nonanol 109970-44-7P 136058-30-5P 210292-09-4P
 210292-13-0P 210292-15-2P 210292-16-3P 210292-18-5P 210292-19-6P
 210292-20-9P 210292-21-0P 210292-22-1P 210292-23-2P 210292-24-3P
 210292-25-4P 210292-26-5P **210292-28-7P** 210292-30-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

IT 25104-18-1P, Polylysine 25232-42-2P, Polyvinylimidazole 38000-06-5P,
 Polylysine 141647-62-3DP, DPDPB, copolymer with T antigen peptide 210292-05-0P 210292-06-1P 210292-07-2P 210292-08-3P 210292-10-7P
 210292-11-8P 210292-12-9P 210292-14-1P
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (method for making compound for delivery to cells by forming polymer in presence of template drug, especially nucleic acid)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:239358 CAPLUS
 DOCUMENT NUMBER: 128:280585
 TITLE: Fluorescent labeling and electrophoresis of carbohydrates
 INVENTOR(S): Jackson, Peter; Cummins, William Jonathan; West, Richard; Smith, John Anthony; Briggs, Mark Samuel Jonathan
 PATENT ASSIGNEE(S): Amersham International PLC, UK; Jackson, Peter; Cummins, William Jonathan; West, Richard; Smith, John Anthony; Briggs, Mark Samuel Jonathan
 SOURCE: PCT Int. Appl., 78 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9815829	A1	19980416	WO 1997-GB2727	19971003

W: AU, CA, HU, IL, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2267337	AA	19980416	CA 1997-2267337	19971003
AU 9745656	A1	19980505	AU 1997-45656	19971003
EP 938675	A1	19990901	EP 1997-944011	19971003
EP 938675	B1	20030507		
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
JP 2001501735	T2	20010206	JP 1998-517295	19971003
US 6294667	B1	20010925	US 1999-284046	19990610
PRIORITY APPLN. INFO.:			GB 1996-20881	A 19961007
			EP 1997-305550	A 19970728
			WO 1997-GB2727	W 19971003

AB The subject of the invention is the labeling and separation of fluorescently labeled carbohydrate substances, by virtue of their different charge-to-mass ratios or other factors, so as to enable a much larger number of different fluorescently labeled carbohydrate substances to be separated from each other electrophoretically than has been possible previously and thereby to facilitate their structural determination and their identification. Preferably the method for separating or distinguishing carbohydrate substances comprises labeling carbohydrate substances with a fluorescent labeling reagent comprising a naphthalene ring structure or other suitable fluorescent structure, having as a substituent a reactive group capable of reacting with a reducing sugar to bind thereto, also having at least one substituent, that may also be the reactive group, capable of carrying at least one pos. charge which may exist on the fluorescently labeled carbohydrate substances and does not extinguish the fluorescence of the labeling reagent. The anal. is continued by applying the labeled substances to an electrophoretic gel, or other matrix used to support electrophoretic sepn., and running the electrophoresis to cause differential migration of different substances. Preferably the fluorescent labeling reagent is a cyanine dye.

IT Functional groups
(aminoxy; fluorescent labeling and electrophoresis of carbohydrates)

IT Fluorescent dyes
Fluorescent dyes
(cyanine; fluorescent labeling and electrophoresis of carbohydrates)

IT Amphoteric materials
Electrophoresis
Fluorescent indicators
Gel electrophoresis
Isoelectric focusing
(fluorescent labeling and electrophoresis of carbohydrates)

IT Oligosaccharides, analysis
RL: ANT (Analyte); BSU (Biological study, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent)
(fluorescent labeling and electrophoresis of carbohydrates)

IT Carbohydrates, analysis
RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
(fluorescent labeling and electrophoresis of carbohydrates)

IT Pyridinium compounds
Quaternary ammonium compounds, analysis
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(fluorescent labeling and electrophoresis of carbohydrates)

IT Cyanine dyes
Cyanine dyes
(fluorescent; fluorescent labeling and electrophoresis of

carbohydrates)

IT Onium compounds

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(guanidinium; fluorescent labeling and electrophoresis of carbohydrates)

IT Functional groups

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(imidazolyl; fluorescent labeling and electrophoresis of carbohydrates)

IT Amines, analysis

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(primary; fluorescent labeling and electrophoresis of carbohydrates)

IT Amines, analysis

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(secondary; fluorescent labeling and electrophoresis of carbohydrates)

IT Amines, analysis

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(tertiary; fluorescent labeling and electrophoresis of carbohydrates)

IT Gel electrophoresis

(two-dimensional; fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-77-3 205814-78-4 205814-79-5 205814-80-8 205814-87-5

205814-88-6 205814-89-7 205814-90-0 205814-91-1 205815-03-8

205815-07-2

RL: ARG (Analytical reagent use); ARU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(fluorescent labeling and electrophoresis of carbohydrates)

IT 117-42-0, 8-Aminonaphthalene-1,3,6-trisulfonic acid

RL: ARG (Analytical reagent use); ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-82-0P 205814-84-2P 205814-94-4P 205814-98-8P 205815-00-5P

205815-02-7P 205815-06-1P

RL: ARG (Analytical reagent use); ARU (Analytical role, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(fluorescent labeling and electrophoresis of carbohydrates)

IT 56-87-1, L-Lysine, analysis 28101-37-3

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); NUU (Other use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(fluorescent labeling and electrophoresis of carbohydrates)

IT 205815-15-2P 205815-18-5P

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); NUU (Other use, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(fluorescent labeling and electrophoresis of carbohydrates)

IT 302-01-2, Hydrazine, analysis 39455-90-8, Pyrazolone
 RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 85-44-9, 1,3-Isobenzofurandione 100-22-1 109-55-7 110-95-2
 622-15-1, N,N'-Diphenylformamidine 870-46-2, tert-Butyl carbazate
 5460-29-7 14134-81-7 20205-29-2 57212-90-5 94790-37-1, Hbtu
 146368-08-3 171429-43-9 198422-83-2 205814-83-1 205814-92-2
 205814-97-7 205815-01-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 13474-65-2P 88015-58-1P 205814-76-2P 205814-81-9P 205814-85-3P
 205814-96-6P 205815-04-9P 205815-05-0P 205815-09-4P
 205815-10-7P 205815-13-0P 205815-14-1P 205815-17-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (fluorescent labeling and electrophoresis of carbohydrates)

IT 205814-86-4P 205815-11-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (fluorescent labeling and electrophoresis of carbohydrates)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 20 OF 22 USPATFULL on STN
 ACCESSION NUMBER: 86:6447 USPATFULL
 TITLE: Aminopropylaminobleomycin derivatives and process for preparation thereof
 INVENTOR(S): Umezawa, Hamao, Tokyo, Japan
 Fujii, Akio, Kanagawa, Japan
 Muraoka, Yasuhiko, Saitama, Japan
 Nakatani, Tokuji, Saitama, Japan
 Fukuoka, Takeyo, Saitama, Japan
 Takahashi, Katsutoshi, Tokyo, Japan
 PATENT ASSIGNEE(S): Zaidan Hojin Biseibutsu Kagaku Kenkyu Kai, Tokyo, Japan
 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4568490		19860204
APPLICATION INFO.:	US 1985-743738		19850612 (6)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1984-635096, filed on 27 Jul 1984, now patented, Pat. No. US 4537880 which is a continuation-in-part of Ser. No. US 1982-453254, filed on 27 Dec 1982, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1981-210449	19811229
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Phillips, Delbert R.	
LEGAL REPRESENTATIVE:	Carnahan, Robert E.	
NUMBER OF CLAIMS:	8	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1308	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	An aminopropylaminobleomycin represented by the following formula or a salt thereof, which is minimized in side effects such as pulmonary toxicity:	

[BX] --NH-- (CH₂).sub.2).sub.3 --A--) CH₂.sub.2).sub.3 --B

wherein

[BX] represents the acyl group of bleomycinic acid whose formula differs from that of bleomycin acid by the removal of the hydroxyl group from the carboxyl group of said acid;

A represents a group of the general formula ##STR1## wherein R₁ is a lower alkyl or benzyl,

R₂ is a lower alkyl or benzyl,

R is a lower alkylene, and

n is 0 or 1; and

B represents a group of the formula ##STR2## wherein (i) R₃ is hydrogen and R₄ is

(a) benzyl substituted by one or more halogen atoms, provided that the benzyl is substituted by two halogen atoms when R₁ is lower alkyl,

(b) benzyl substituted by cyano, two or more alkoxy groups or two or more benzyloxy groups,

(c) lower alkyl substituted by cycloalkyl or anthranyl,

(d) phenylethyl substituted by one or more halogen atoms, or

(e) diphenylethyl; or

(ii) both R₃ and R₄ are benzyl which may be substituted by one or more

(a) benzyloxy groups,

(b) ring substituted benzyloxy groups in which the ring substituents may be one or more halogen atoms, lower alkoxy groups or benzyloxy groups, or

(c) cycloalkylmethoxy groups;

and a process for the preparation thereof.

IT Bactericides, Disinfectants, and Antiseptics

IT Neoplasm inhibitors

(aminopropylaminobleomycins)

IT 88080-74-4

(amidation of)

IT 109-55-7

(benzoylation of)

IT 123-08-0 139-85-5

(benzylation of)

IT 88015-04-7P 88015-05-8P 88015-06-9P 88015-07-0P 88015-08-1P

88015-09-2P 88015-10-5P 88015-11-6P 88015-12-7P 88015-13-8P

88015-14-9P 88015-15-0P 88015-62-7P 88015-63-8P 88015-64-9P

88033-61-8P 88033-62-9P 88033-63-0P 88033-64-1P 88033-65-2P

88033-66-3P 88033-67-4P 88033-68-5P 88033-69-6P 88033-70-9P

88033-71-0P 88033-72-1P 88033-73-2P 88033-74-3P 88033-75-4P

88033-76-5P 88033-77-6P 88033-78-7P 88033-79-8P 88033-80-1P
 88033-81-2P 88033-82-3P 88033-83-4P 88033-84-5P 88033-85-6P
 88033-86-7P 88033-87-8P 88033-88-9P 88033-89-0P 88033-90-3P
 88033-91-4P 88056-61-5P 88056-62-6P 88056-63-7P 88056-64-8P
 88082-27-3P 88082-28-4P 88082-29-5P 88082-30-8P 88083-11-8P
 88266-67-5P
 (preparation and bactericidal and antitumor activity of)
 IT 88003-37-6P 88003-38-7P 88003-39-8P 88003-40-1P 88003-41-2P
 88003-42-3P 88003-43-4P 88003-44-5P 88003-45-6P 88003-46-7P
 88003-47-8P 88003-48-9P 88003-49-0P 88003-50-3P 88003-51-4P
 88003-52-5P 88003-53-6P 88003-54-7P 88003-55-8P 88003-56-9P
 88003-57-0P 88003-58-1P 88003-59-2P 88003-60-5P 88003-61-6P
 88003-62-7P 88003-63-8P 88003-64-9P 88003-65-0P 88003-66-1P
 88003-67-2P 88003-68-3P 88003-69-4P 88003-70-7P 88003-71-8P
 88003-72-9P 88003-73-0P 88003-74-1P 88003-75-2P 88003-76-3P
 88003-77-4P 88003-78-5P 88003-79-6P 88003-80-9P 88003-81-0P
 88003-82-1P 88018-88-6P 88018-89-7P 88018-90-0P 88018-92-2P
 88018-93-3P 88018-94-4P 88018-95-5P 88018-96-6P 88036-97-9P
 88266-65-3P
 (preparation and chromatog. and electrophoresis of)
 IT 88015-58-1P
 (preparation and hydrolysis of)
 IT 88015-61-6P
 (preparation and oxidation of)
 IT 88015-55-8P 88015-56-9P 88015-57-0P **88015-59-2P**
 88015-60-5P
 (preparation and reaction of, with bleomycin acid)
 IT 40948-30-9P
 (preparation and reaction of, with bromopropylphthalamide)
 IT 88015-44-5P 88015-45-6P 88015-52-5P 88015-53-6P 88015-54-7P
 88081-27-0P 88082-57-9P 88154-84-1P
 (preparation of)
 IT 5460-29-7
 (reaction of, with benzamidopropylidemethylamine)
 IT 103-67-3 110-95-2
 (reaction of, with bromopropylphthalamide)
 IT 74-95-3
 (reaction of, with cyclotridecanone)
 IT 832-10-0
 (reaction of, with dibromomethane)
 IT 622-95-7 2746-25-0 18880-04-1
 (reaction of, with dihydroxybenzaldehyde)
 IT 836-42-0 3814-33-3
 (reaction of, with hydroxybenzaldehyde)
 IT 88003-35-4 88003-36-5 88015-51-4 88018-91-1
 (reductive alkylation of)
 IT 66-77-3 89-98-5 98-01-1, reactions 98-03-3 98-86-2, reactions
 99-91-2 102-04-5 104-53-0 104-88-1, reactions 105-07-7 122-78-1
 123-11-5, reactions 454-89-7 459-57-4 587-04-2 613-45-6
 642-31-9 653-37-2 872-53-7 874-42-0 947-91-1 1122-91-4
 2043-61-0 4251-65-4 4277-29-6 4373-07-3 5447-02-9 5453-80-5
 5664-21-1 6137-86-6 6287-38-3 6688-11-5 88015-46-7 88015-47-8
 88015-48-9 88015-49-0 88015-50-3 88036-81-1
 (reductive alkylation of aminopropylaminopropylaminobleomycin by)
 IT 88003-83-2
 (reductive alkylation of, with aldehyde)

L7 ANSWER 21 OF 22 USPATFULL on STN
 ACCESSION NUMBER: 85:50750 USPATFULL
 TITLE: Aminopropylaminobleomycin derivatives and process for

INVENTOR(S) : preparation thereof
 Umezawa, Hamao, Tokyo, Japan
 Fujii, Akio, Kanagawa, Japan
 Muraoka, Yasuhiko, Saitama, Japan
 Nakatani, Tokuji, Saitama, Japan
 Fukuoka, Takeyo, Saitama, Japan
 Takahashi, Katsutoshi, Tokyo, Japan
 PATENT ASSIGNEE(S) : Zaidan Hojin Biseibutsu Kagaku Kenkyu Kai, Tokyo, Japan
 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4537880		19850827
APPLICATION INFO.:	US 1984-635096		19840727 (6)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1982-453254, filed on 27 Dec 1982, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1981-210449	19811229
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Phillips, Delbert R.	
LEGAL REPRESENTATIVE:	Carnahan, Robert E.	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1306	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An aminopropylaminobleomycin represented by the following formula or a salt thereof, which is minimized in side effects such as pulmonary toxicity:

[BX] --NH-- (CH_{sub.2}).sub.3 --A-- (CH_{sub.2}).sub.3 --B

wherein

[BX] represents the acyl group of bleomycinic acid whose formula differs from that of bleomycin acid by the removal of the hydroxyl group from the carboxyl group of said acid;

A represents a group of the general formula ##STR1## wherein R_{sub.1} is a lower alkyl or benzyl,

R_{sub.2} is a lower alkyl or benzyl,

R is a lower alkylene, and

n is 0 or 1; and

B represents a group of the formula ##STR2## wherein (i) R_{sub.3} is hydrogen and R_{sub.4} is

(a) benzyl substituted by one or more halogen atoms, provided that the benzyl is substituted by two halogen atoms when R_{sub.1} is lower alkyl,

(b) benzyl substituted by cyano, two or more alkoxy groups or two or more benzyloxy groups,

(c) lower alkyl substituted by cycloalkyl or anhranyl,

- (d) phenylethyl substituted by one or more halogen atoms, or
- (e) diphenylethyl; or
- (ii) both R._{sub.3} and R._{sub.4} are benzyl which may be substituted by one or more
 - (a) benzyloxy groups,
 - (b) ring substituted benzyloxy groups in which the ring substituents may be one or more halogen atoms, lower alkoxy groups or benzyloxy groups, or
 - (c) cycloalkylmethoxy groups;

and a process for the preparation thereof.

IT	Bactericides, Disinfectants, and Antiseptics				
IT	Neoplasm inhibitors (aminopropylaminobleomycins)				
IT	88080-74-4 (amidation of)				
IT	109-55-7 (benzoylation of)				
IT	123-08-0 139-85-5 (benzylation of)				
IT	88015-04-7P	88015-05-8P	88015-06-9P	88015-07-0P	88015-08-1P
	88015-09-2P	88015-10-5P	88015-11-6P	88015-12-7P	88015-13-8P
	88015-14-9P	88015-15-0P	88015-62-7P	88015-63-8P	88015-64-9P
	88033-61-8P	88033-62-9P	88033-63-0P	88033-64-1P	88033-65-2P
	88033-66-3P	88033-67-4P	88033-68-5P	88033-69-6P	88033-70-9P
	88033-71-0P	88033-72-1P	88033-73-2P	88033-74-3P	88033-75-4P
	88033-76-5P	88033-77-6P	88033-78-7P	88033-79-8P	88033-80-1P
	88033-81-2P	88033-82-3P	88033-83-4P	88033-84-5P	88033-85-6P
	88033-86-7P	88033-87-8P	88033-88-9P	88033-89-0P	88033-90-3P
	88033-91-4P	88056-61-5P	88056-62-6P	88056-63-7P	88056-64-8P
	88082-27-3P	88082-28-4P	88082-29-5P	88082-30-8P	88083-11-8P
	88266-67-5P (preparation and bactericidal and antitumor activity of)				
IT	88003-37-6P	88003-38-7P	88003-39-8P	88003-40-1P	88003-41-2P
	88003-42-3P	88003-43-4P	88003-44-5P	88003-45-6P	88003-46-7P
	88003-47-8P	88003-48-9P	88003-49-0P	88003-50-3P	88003-51-4P
	88003-52-5P	88003-53-6P	88003-54-7P	88003-55-8P	88003-56-9P
	88003-57-0P	88003-58-1P	88003-59-2P	88003-60-5P	88003-61-6P
	88003-62-7P	88003-63-8P	88003-64-9P	88003-65-0P	88003-66-1P
	88003-67-2P	88003-68-3P	88003-69-4P	88003-70-7P	88003-71-8P
	88003-72-9P	88003-73-0P	88003-74-1P	88003-75-2P	88003-76-3P
	88003-77-4P	88003-78-5P	88003-79-6P	88003-80-9P	88003-81-0P
	88003-82-1P	88018-88-6P	88018-89-7P	88018-90-0P	88018-92-2P
	88018-93-3P	88018-94-4P	88018-95-5P	88018-96-6P	88036-97-9P
	88266-65-3P (preparation and chromatog. and electrophoresis of)				
IT	88015-58-1P (preparation and hydrolysis of)				
IT	88015-61-6P (preparation and oxidation of)				
IT	88015-55-8P	88015-56-9P	88015-57-0P	88015-59-2P	
	88015-60-5P (preparation and reaction of, with bleomycin acid)				
IT	40948-30-9P (preparation and reaction of, with bromopropylphthalamide)				

IT 88015-44-5P 88015-45-6P 88015-52-5P 88015-53-6P 88015-54-7P
 88081-27-0P 88082-57-9P 88154-84-1P
 (preparation of)
 IT 5460-29-7
 (reaction of, with benzamidopropylidemethylamine)
 IT 103-67-3 110-95-2
 (reaction of, with bromopropylphthalimide)
 IT 74-95-3
 (reaction of, with cyclotridecanone)
 IT 832-10-0
 (reaction of, with dibromomethane)
 IT 622-95-7 2746-25-0 18880-04-1
 (reaction of, with dihydroxybenzaldehyde)
 IT 836-42-0 3814-33-3
 (reaction of, with hydroxybenzaldehyde)
 IT 88003-35-4 88003-36-5 88015-51-4 88018-91-1
 (reductive alkylation of)
 IT 66-77-3 89-98-5 98-01-1, reactions 98-03-3 98-86-2, reactions
 99-91-2 102-04-5 104-53-0 104-88-1, reactions 105-07-7 122-78-1
 123-11-5, reactions 454-89-7 459-57-4 587-04-2 613-45-6
 642-31-9 653-37-2 872-53-7 874-42-0 947-91-1 1122-91-4
 2043-61-0 4251-65-4 4277-29-6 4373-07-3 5447-02-9 5453-80-5
 5664-21-1 6137-86-6 6287-38-3 6688-11-5 88015-46-7 88015-47-8
 88015-48-9 88015-49-0 88015-50-3 88036-81-1
 (reductive alkylation of aminopropylaminopropylaminobleomycin by)
 IT 88003-83-2
 (reductive alkylation of, with aldehyde)

L7 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1984:23013 CAPLUS
 DOCUMENT NUMBER: 100:23013
 TITLE: Aminopropylaminobleomycin derivatives
 INVENTOR(S): Umezawa, Hamao; Fujii, Akio; Muraoka, Yasuhiko;
 Nakatani, Tokuji; Fukuoka, Takeyo; Takahashi,
 Katsutoshi
 PATENT ASSIGNEE(S): Microbiochemical Research Foundation, Japan
 SOURCE: Ger. Offen., 76 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3247199	A1	19830707	DE 1982-3247199	19821221
JP 58116497	A2	19830711	JP 1981-210449	19811229
JP 63006078	B4	19880208		
CA 1244824	A1	19881115	CA 1982-417731	19821215
NL 8204857	A	19830718	NL 1982-4857	19821216
CH 657859	A	19860930	CH 1982-7478	19821222
GB 2112781	A1	19830727	GB 1982-36626	19821223
GB 2112781	B2	19851218		
SE 8207408	A	19830630	SE 1982-7408	19821227
SE 465034	B	19910715		
SE 465034	C	19911107		
ES 518580	A1	19840201	ES 1982-518580	19821227
AT 8204693	A	19850815	AT 1982-4693	19821227
AT 380021	B	19860325		
DK 8205764	A	19830630	DK 1982-5764	19821228

HU 27462	O	19831028	HU 1982-4179	19821228
HU 187836	B	19860228		
CS 237334	B2	19850716	CS 1982-9910	19821228
IL 67581	A1	19860331	IL 1982-67581	19821228
FR 2519638	A1	19830718	FR 1982-22035	19821229
FR 2519638	B1	19851129		
US 4537880	A	19850827	US 1984-635096	19840727
US 4568490	A	19860204	US 1985-743738	19850612

PRIORITY APPLN. INFO.:

JP 1981-210449	19811229
US 1982-453254	19821227
US 1984-635096	19840727

AB Bleomycins I (X = amino, piperazino, aminoalkylamino; NRR1 = amino) (53 compds.) and their Cu chelates were prepared. Thus, I (X = NMe, R = R1 = H) was reductively alkylated with cycloundecanecarboxaldehyde to give I Cu chelate (X = NMe, R = cycloundecylmethyl, R1 = H) which was converted to its Cu-free form (II). II caused 50% inhibition of He-La cell growth at 0.58 µg/mL and caused no pulmonary fibrosis in mice at 10 + 5 mg/kg.

IT Bactericides, Disinfectants, and Antiseptics
Neoplasm inhibitors

(aminopropylaminobleomycins)

IT 88080-74-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation of)

IT 109-55-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(benzoylation of)

IT 123-08-0 139-85-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(benzylation of)

IT 88015-04-7P	88015-05-8P	88015-06-9P	88015-07-0P	88015-08-1P
88015-09-2P	88015-10-5P	88015-11-6P	88015-12-7P	88015-13-8P
88015-14-9P	88015-15-0P	88015-62-7P	88015-63-8P	88015-64-9P
88033-61-8P	88033-62-9P	88033-63-0P	88033-64-1P	88033-65-2P
88033-66-3P	88033-67-4P	88033-68-5P	88033-69-6P	88033-70-9P
88033-71-0P	88033-72-1P	88033-73-2P	88033-74-3P	88033-75-4P
88033-76-5P	88033-77-6P	88033-78-7P	88033-79-8P	88033-80-1P
88033-81-2P	88033-82-3P	88033-83-4P	88033-84-5P	88033-85-6P
88033-86-7P	88033-87-8P	88033-88-9P	88033-89-0P	88033-90-3P
88033-91-4P	88056-61-5P	88056-62-6P	88056-63-7P	88056-64-8P
88082-27-3P	88082-28-4P	88082-29-5P	88082-30-8P	88083-11-8P

88266-67-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation and bactericidal and antitumor activity of)

IT 88003-37-6P	88003-38-7P	88003-39-8P	88003-40-1P	88003-41-2P
88003-42-3P	88003-43-4P	88003-44-5P	88003-45-6P	88003-46-7P
88003-47-8P	88003-48-9P	88003-49-0P	88003-50-3P	88003-51-4P
88003-52-5P	88003-53-6P	88003-54-7P	88003-55-8P	88003-56-9P
88003-57-0P	88003-58-1P	88003-59-2P	88003-60-5P	88003-61-6P
88003-62-7P	88003-63-8P	88003-64-9P	88003-65-0P	88003-66-1P
88003-67-2P	88003-68-3P	88003-69-4P	88003-70-7P	88003-71-8P
88003-72-9P	88003-73-0P	88003-74-1P	88003-75-2P	88003-76-3P
88003-77-4P	88003-78-5P	88003-79-6P	88003-80-9P	88003-81-0P
88003-82-1P	88018-88-6P	88018-89-7P	88018-90-0P	88018-92-2P
88018-93-3P	88018-94-4P	88018-95-5P	88018-96-6P	88036-97-9P

88266-65-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and chromatog. and electrophoresis of)

IT 88015-58-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and hydrolysis of)

IT 88015-61-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and oxidation of)

IT 88015-55-8P 88015-56-9P 88015-57-0P 88015-59-2P
 88015-60-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with bleomycin acid)

IT 40948-30-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with bromopropylphthalamide)

IT 88015-44-5P 88015-45-6P 88015-52-5P 88015-53-6P 88015-54-7P
 88081-27-0P 88082-57-9P 88154-84-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

IT 5460-29-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with benzamidopropyldimethylamine)

IT 103-67-3 110-95-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bromopropylphthalamide)

IT 74-95-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with cyclotridecanone)

IT 832-10-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dibromomethane)

IT 622-95-7 2746-25-0 18880-04-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dihydroxybenzaldehyde)

IT 836-42-0 3814-33-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with hydroxybenzaldehyde)

IT 88003-35-4 88003-36-5 88015-51-4 88018-91-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reductive alkylation of)

IT 66-77-3 89-98-5 98-01-1, reactions 98-03-3 98-86-2, reactions
 99-91-2 102-04-5 104-53-0 104-88-1, reactions 105-07-7 122-78-1
 123-11-5, reactions 454-89-7 459-57-4 587-04-2 613-45-6 642-31-9
 653-37-2 872-53-7 874-42-0 947-91-1 1122-91-4 2043-61-0
 4251-65-4 4277-29-6 4373-07-3 5447-02-9 5453-80-5 5664-21-1
 6137-86-6 6287-38-3 6688-11-5 88015-46-7 88015-47-8 88015-48-9
 88015-49-0 88015-50-3 88036-81-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reductive alkylation of aminopropylaminopropylaminobleomycin by)

IT 88003-83-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reductive alkylation of, with aldehyde).

=> => fil reg

FILE 'REGISTRY' ENTERED AT 14:21:00 ON 02 DEC 2004
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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STRUCTURE FILE UPDATES: 1 DEC 2004 HIGHEST RN 791553-15-6
DICTIONARY FILE UPDATES: 1 DEC 2004 HIGHEST RN 791553-15-6

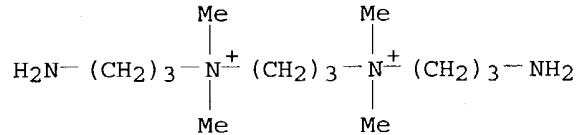
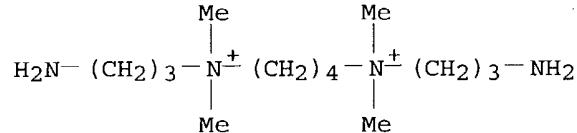
TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

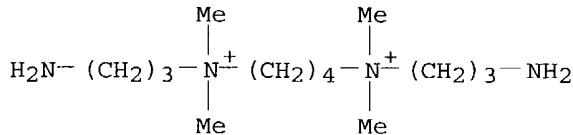
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d ide can l4 1-8

L4 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN 780021-10-5 REGISTRY
CN 1,3-Propanediaminium, N,N'-bis(3-aminopropyl)-N,N,N',N'-tetramethyl- (9CI)
(CA INDEX NAME)
FS 3D CONCORD
MF C13 H34 N4
CI COM
SR CAL4 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN 721393-11-9 REGISTRY
CN 1,4-Butanediaminium, N,N'-bis(3-aminopropyl)-N,N,N',N'-tetramethyl- (9CI)
(CA INDEX NAME)
FS 3D CONCORD
MF C14 H36 N4
CI COM
SR CAL4 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN 380304-20-1 REGISTRY

CN 1,4-Butanediaminium, N,N'-bis(3-aminopropyl)-N,N,N',N'-tetramethyl-,
 diiodide, dihydrochloride (9CI) (CA INDEX NAME)
 MF C14 H36 N4 . 2 Cl H . 2 I
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL
 DT.CA CAplus document type: Patent
 RL.P Roles from patents: ANST (Analytical study); PREP (Preparation); RACT
 (Reactant or reagent)
 CRN (721393-11-9)



●2 HCl

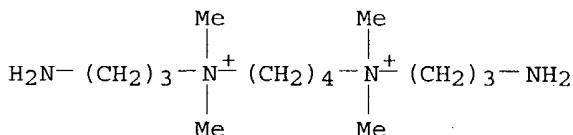
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:288636

REFERENCE 2: 136:32660

L4 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 221226-23-9 REGISTRY
 CN 1,4-Butanediaminium, N,N'-bis(3-aminopropyl)-N,N,N',N'-tetramethyl-,
 dichloride (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN N2,N2,N3,N3-Tetramethylspermine dichloride
 MF C14 H36 N4 . 2 Cl
 SR CA
 LC STN Files: CA, CAPLUS, TOXCENTER
 DT.CA CAplus document type: Journal
 RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)
 CRN (721393-11-9)



●2 Cl⁻

1 REFERENCES IN FILE CA (1907 TO DATE)

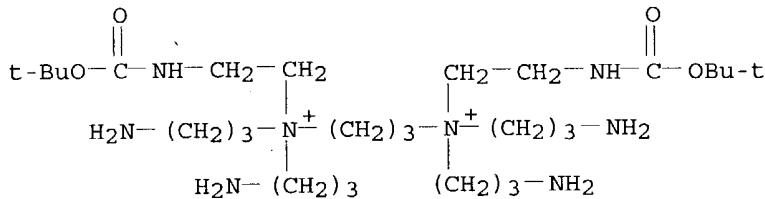
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 130:237731

L4 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 210292-28-7 REGISTRY
 CN 1,3-Propanediaminium, N,N,N',N'-tetrakis(3-aminopropyl)-N,N'-bis[2-[(1,1-dimethylethoxy)carbonyl]amino]ethyl]-, salt with trifluoroacetic acid (1:2) (9CI) (CA INDEX NAME)
 MF C29 H66 N8 O4 . 2 C2 F3 O2
 SR CA
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL
 DT.CA Cplus document type: Patent
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

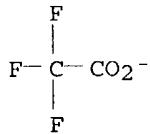
CM 1

CRN 210292-27-6
 CMF C29 H66 N8 O4



CM 2

CRN 14477-72-6
 CMF C2 F3 O2



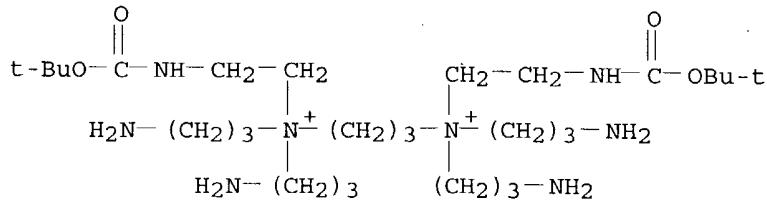
3 REFERENCES IN FILE CA (1907 TO DATE)
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:107515

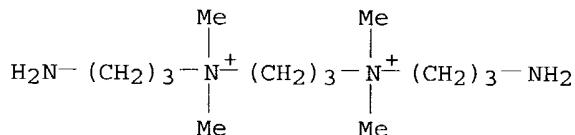
REFERENCE 2: 131:327545

REFERENCE 3: 129:118754

L4 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 210292-27-6 REGISTRY
 CN 1,3-Propanediaminium, N,N,N',N'-tetrakis(3-aminopropyl)-N,N'-bis[2-[(1,1-dimethylethoxy)carbonyl]amino]ethyl]- (9CI) (CA INDEX NAME)
 MF C29 H66 N8 O4
 CI COM
 SR CA



L4 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 205814-96-6 REGISTRY
 CN 1,3-Propanediaminium, N,N'-bis(3-aminopropyl)-N,N,N',N'-tetramethyl-,
 dibromide (9CI) (CA INDEX NAME)
 MF C13 H34 N4 . 2 Br
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL
 DT.CA Caplus document type: Patent
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
 CRN (780021-10-5)

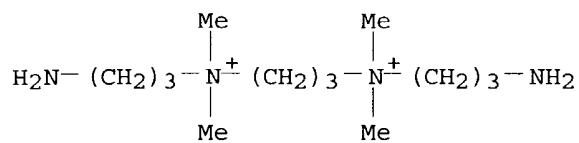


●2 Br⁻

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 128:280585

L4 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 88015-59-2 REGISTRY
 CN 1,3-Propanediaminium, N,N'-bis(3-aminopropyl)-N,N,N',N'-tetramethyl-,
 dichloride, dihydrochloride (9CI) (CA INDEX NAME)
 MF C13 H34 N4 . 2 Cl H . 2 Cl
 LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
 DT.CA Caplus document type: Patent
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
 CRN (780021-10-5)



● 2 Cl⁻

● 2 HCl

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 100:23013

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